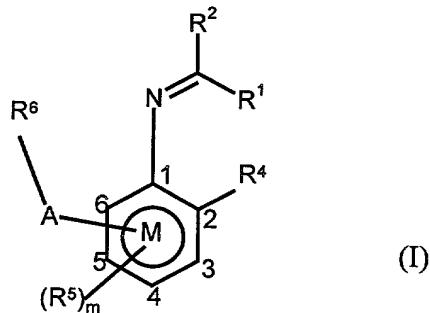


Claims

1. A compound of general formula I and salts thereof as fungicides



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wherein

- R¹ and R², which may be the same or different, are chosen from among alkyl, acyl, cyano, alkoxy carbonyl, aminocarbonyl, alkenyl, alkynyl, carbocyclyl, heterocyclyl, each of which may be substituted, and hydrogen; or
- R² and R¹, together with their interconnecting atoms may form a ring, which may be substituted;
- R⁴ is chosen from among alkyl, alkenyl, alkynyl, carbocyclyl, heterocyclyl, each of which may be substituted; hydroxy; mercapto; azido; nitro; halogen; cyano; acyl; optionally substituted amino; cyanato; thiocyanato; -SF₅; -OR^a; -SR^a and -Si(R^a)₃, where R^a is alkyl, alkenyl, alkynyl, acyl, carbocyclyl or heterocyclyl, each of which may be substituted;
- m is 0 to 3;
- when present R⁵, which may be the same or different to any other R⁵, is any group defined for R⁴;
- R⁶ is optionally substituted carbo- or heterocyclyl; and
- A is a direct bond, -O-, -S(O)_n-, -NR⁹-, -CR⁷=CR⁷-, -C≡C-, -A¹-, -A¹-A¹-, -O-(A¹)_k-O-, -O-(A¹)_k-, -A³-, -A⁴-, -A¹O-, -A¹S(O)_n-, -A²-, -OA²-, -NR⁹A²-, -OA²-A¹-, -OA²-C(R⁷)=C(R⁸)-, -S(O)_nA¹-, -A¹-A⁴-, -A¹-A⁴-C(R⁸)=N-N=CR⁸-, -A¹-A⁴-C(R⁸)=N-X²-X³-, -A¹-A⁴-A³-, -A¹-A⁴-N(R⁹)-, -A¹-A⁴-X-CH₂-, -A¹-A⁴-A¹-, -A¹-A⁴-CH₂X-, -A¹-A⁴-C(R⁸)=N-X²-X³-X¹-, -A¹-X-C(R⁸)=N-, -A¹-X-C(R⁸)=N-N=CR⁸-, -A¹-X-C(R⁸)=N-N(R⁹)-, -A¹-X-A²-X¹-, -A¹-O-A³-, -A¹-O-C(R⁷)=C(R⁸)-, -A¹-O-N(R⁹)-A²-N(R⁹)-, -A¹-O-N(R⁹)-A²-, -A¹-N(R⁹)-A²-N(R⁹)-, and -A¹-N(R⁹)-A²-.

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-A¹-N(R⁹)-A²-, -A¹-N(R⁹)-N=C(R⁸)-, -A³-A¹-, -A⁴-A³-, -A²-NR⁹-,
-A¹-A²-X¹-, -A¹-A¹-A²-X¹-, -O-A²-N(R⁹)-A²-, -CR⁷=CR⁷-A²-X¹-,
-C≡C-A²-X¹-, -N=C(R⁸)-A²-X¹-, -C(R⁸)=N-N=C(R⁸)-, -C(R⁸)=N-N(R⁹)-,
-(CH₂)₂-O-N=C(R⁸)- ou -X-A²-N(R⁹)-

5 where:

- n is 0, 1 or 2,
- k is 1 to 9,
- A¹ is -CHR⁷-,
- A² is -C(=X)-,
- A³ is -C(R⁸)=N-O-,
- A⁴ is -O-N=C(R⁸)-,

10 - X is O or S,
- X¹ is O, S, NR⁹ or a direct bond,
- X² is O, NR⁹ or a direct bond,
- X³ is hydrogen, -C(=O)-, -SO₂- or a direct bond,

15 - R⁷, which may be the same or different to any other R⁷, is alkyl, alkenyl, alkynyl, cyano, acyl, hydroxy, alkoxy, haloalkoxy, alkylthio, cycloalkyl or phenyl, each of which may be substituted; or is hydrogen or halogen;

20 - R⁸, which may be the same or different to any other R⁸, is alkyl, alkenyl, alkynyl, alkoxy, alkylthio, carbo- or hetero-cyclyl, each of which may be substituted; or is hydrogen;

25 - R⁹, which may be the same or different to any other R⁹, is optionally substituted alkyl, optionally substituted carbo- or hetero-cyclyl, hydrogen or acyl; or two R⁹ groups on A, together with the connecting atoms, form a 5 to 7 membered ring;

where the moiety depicted on the right side of linkage A is attached to R⁶; or -A-R⁶ and R⁵ together with benzene ring M form an optionally substituted fused ring system.

30 2. A compound according to claim 1 wherein R¹ is alkyl, alkenyl or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or optionally substituted phenyl; or is hydrogen.

35 3. A compound according to claim 2 wherein R¹ is alkyl, alkenyl or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or

phenyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio, each containing 1 to 5 carbon atoms, or halogen, or is hydrogen.

4. A compound according to any preceding claim wherein R¹ is C₁-C₁₀ alkyl

5 or hydrogen.

5. A compound according to any preceding claim wherein R¹ is methyl or hydrogen.

10 6. A compound according to any preceding claim wherein R² is alkyl, acyl, alkoxycarbonyl, aminocarbonyl, alkenyl or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or optionally substituted phenyl, or is hydrogen or alkylcarbonyl.

15 7. A compound according to any preceding claim wherein R² is alkyl, acyl, alkoxycarbonyl, aminocarbonyl, alkenyl or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or phenyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio, each containing 1 to 5 carbon atoms, or by halogen, or is hydrogen or alkylcarbonyl.

20 8. A compound according to any preceding claim wherein R² is C₁-C₁₀ alkyl or hydrogen.

25 9. A compound according to any preceding claim wherein R² is methyl or hydrogen.

10. A compound according to any preceding claim wherein R⁴ is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or optionally substituted phenyl; or is hydroxy; halogen; cyano; acyl; 30 alkoxy; haloalkoxy; or alkylthio.

11. A compound according to any preceding claim wherein R⁴ is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or phenyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio, each containing 1 to 5 carbon atoms, or halogen; or is hydroxy; halogen;

cyano; acyl; alkoxy; haloalkoxy; or alkylthio.

12. A compound according to any preceding claim wherein R⁴ is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio,

5 halogen or optionally substituted phenyl; or is hydroxy; halogen; cyano; -C(=O)R^c, -C(=S)R^c or -S(O)_pR^c, where R^c is alkyl, haloalkyl, alkoxy, haloalkoxy, alkylthio, amino, monoalkylamino, dialkylamino or phenyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio; or phenoxy, phenylthio, carbocyclyl, heterocyclyl; alkoxy; haloalkoxy; or alkylthio.

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13. A compound according to any preceding claim wherein R⁴ is C₁-C₁₀ alkyl or halogen.

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14. A compound according to any preceding claim wherein R⁴ is methyl or ethyl or halogen.

15. A compound according to any preceding claim wherein m is 0 or 1.

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16. A compound according to any preceding claim wherein, when present, R⁵ is a group defined for R⁴ in either of claims 10 to 14.

17. A compound according to any preceding claim wherein, when present, R⁵ is attached at the 5 position of ring M.

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18. A compound according to any preceding claim wherein A is a direct bond, -O-, -A¹-, -S(O)_nA¹-, -O(A¹)_k-, -S(O)_n-, -NR⁹A²-, -A²-, -OA²-, -OA²-A¹-, -NR⁹- or -O(A¹)_kO-.

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19. A compound according to any preceding claim wherein A is a direct bond, -O-, -S-, -NR⁹-, -CHR⁷- or -O-CHR⁷-.

20. A compound according to any preceding claim wherein A is a direct bond or -O-.

21. A compound according to any preceding claim wherein, when present, R⁹ is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or optionally substituted phenyl; or is hydrogen.

5 22. A compound according to any preceding claim wherein, when present, R⁹ is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or phenyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio, each containing 1 to 5 carbon atoms, or halogen; or is hydrogen.

10 23. A compound according to any preceding claim wherein, when present, R⁹ is C₁-C₁₀ alkyl or hydrogen.

15 24. A compound according to any preceding claim wherein, when present, R⁷ is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or optionally substituted phenyl; or is hydroxy; halogen; cyano; acyl; alkoxy; haloalkoxy; alkylthio; or hydrogen.

20 25. A compound according to any preceding claim wherein, when present, R⁷ is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or phenyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio, each containing 1 to 5 carbon atoms, or by halogen; or is hydroxy; halogen; cyano; acyl; alkoxy; haloalkoxy; alkylthio; or hydrogen.

25 26. A compound according to any preceding claim wherein, when present, R⁷ is C₁-C₁₀ alkyl or hydrogen.

30 27. A compound according to any preceding claim wherein A is attached to the 4 position of benzene ring M.

28. A compound according to any preceding claim wherein R⁶ is optionally substituted aromatic heterocyclyl.

29. A compound according to any preceding claim wherein R⁶ is optionally substituted thiazolyl, isothiazolyl, thiadiazolyl, pyridyl or pyrimidinyl.

30. A compound according to any preceding claim wherein R⁶ is optionally substituted 1,2,4-thiadiazolyl.

31. A compound according to any preceding claim wherein when substituted, R⁶ may be substituted by one or more substituents, which may be the same or different, and may be selected from the list: alkyl, alkenyl, alkynyl, carbo- or heterocyclyl,
each of which may be substituted; hydroxy; mercapto; azido; nitro; halogen; cyano;
acyl; optionally substituted amino; cyanato; thiocyanato; -SF₅; -OR^a; -SR^a and
-Si(R^a)₃, where R^a is alkyl, alkenyl, alkynyl, carbocyclyl or heterocyclyl, each of
which may be substituted.

32. A compound according to claim 31 wherein when substituted, R⁶ may be substituted by one or more substituents, which may be the same or different, and may be selected from the list: hydroxy; halogen; cyano; acyl; amino; alkylamino;
dialkylamino; alkyl; haloalkyl; R^aO-alkyl; acyloxyalkyl; cyano-oxyalkyl; alkoxy;
haloalkoxy; alkylthio; carbocyclyl, optionally substituted by alkyl, haloalkyl, alkoxy,
haloalkoxy or alkylthio; and benzyl optionally substituted by alkyl, haloalkyl,
alkoxy, haloalkoxy or alkylthio.

33. The use of a compound according to any preceding claim and salts thereof as fungicides.

34. A fungicidal composition comprising at least one compound as claimed in any one of claims 1 to 32 in admixture with an agriculturally acceptable diluent or carrier.

35. A method of combating fungi at a locus infested or liable to be infested therewith, which comprises applying to the locus a compound as claimed any one of claims 1 to 32.